

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
8 July 2004 (08.07.2004)

PCT

(10) International Publication Number  
**WO 2004/057249 A1**

(51) International Patent Classification<sup>7</sup>: **F25D 11/00**

(21) International Application Number:  
PCT/KR2003/002045

(22) International Filing Date: 2 October 2003 (02.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
10-2002-0081875  
20 December 2002 (20.12.2002) KR

(71) Applicant (for all designated States except US): LG  
ELECTRONICS INC. [KR/KR]; 20, Yoido-Dong,  
Youngdungpo-Gu, Seoul 150-010 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): JUN, Young-Hoan  
[KR/KR]; Daedong Apt. 109-102, Sangnam-Dong,  
Changwon, Gyeongsangnam-Do 641-777 (KR). SHIN,

Dong-Hee [KR/KR]; Jugong Apt. 201-1401, Danggam  
4-Dong, Busanjin-Gu, Busan 614-766 (KR). BAE,  
Gyoo-Jong [KR/KR]; 175-7, Bonggok-Dong, Changwon,  
Gyeongsangnam-Do 641-823 (KR). LEE, Woo-Geun  
[KR/KR]; 304-29, Deokcheon 2-Dong, Buk-Gu, Busan  
616-816 (KR).

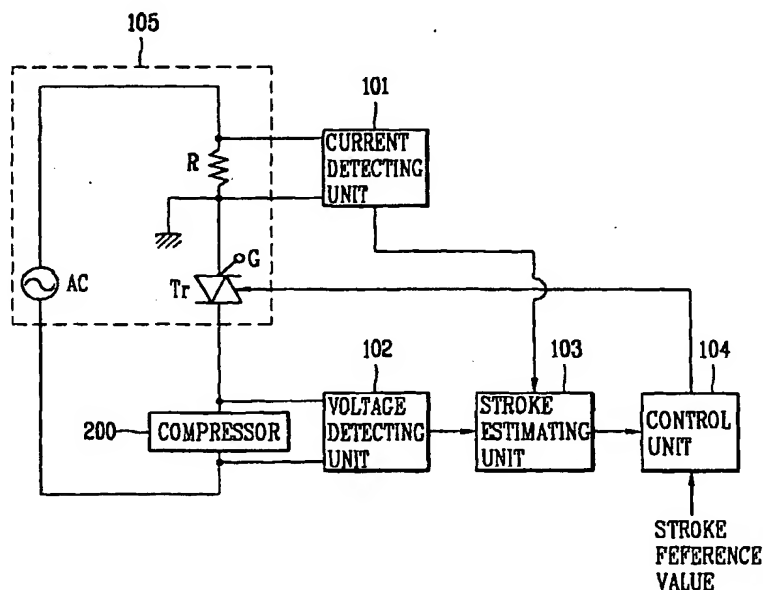
(74) Agent: PARK, Jang-Won; Jewoo Bldg., 5th Floor, 200,  
Nonhyun-Dong, Gangnam-Gu, Seoul 135-010 (KR).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK,  
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,  
MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,  
SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG,  
US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,

[Continued on next page]

(54) Title: OPERATION CONTROL APPARATUS FOR COMPRESSOR AND METHOD THEREOF



(57) **Abstract:** In an operation control apparatus and a method thereof, the compressor can be protected from overloading through a current control device instead of an OLP (Over Load Protector) and a PTC thermistor (Positive Temperature Coefficient thermistor). The operation control apparatus includes: a stroke estimated unit for estimating a stroke of the compressor on the basis of a current and a voltage applied to an interior motor of the compressor and a motor constant of the interior motor; a control unit for generating a control signal for varying a stroke of the compressor on the basis of the estimated stroke value and a preset stroke reference value; and a current control means being turned on/off so as to vary a stroke voltage applied to the interior motor of the compressor.

WO 2004/057249 A1



SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*